

Title: SOVIET RECIPROCATING AIRCRAFT ENGINES by Prof Ye. Bugrov (USSR)

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SOVIET RECIPROCATING AIRCRAFT ENGINES

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The Soviet aircraft engine industry dates from the period right after the civil war in Russia.

In 1926, the 12-cylinder V-type water-cooled RAM engine was designed by Shvetsov and Moiseyev.

The next year, Bessonov constructed the 18-cylinder water-cooled M-18 engine of 750 horsepower, 2100 revolutions-per-minute. A centrifugal supercharger was used with this engine.

After developing several other new models Soviet activity in this field reached a stage where further progress required serious scientific research on a large scale.

For this purpose, the Central Institute of Aviation Engine Construction (TsIAM) was created in 1930. In this institute the AM-34 engine was constructed by A. A. Mikulin. This water-cooled, 12-cylinder V-type engine was widely used in Soviet aviation, and some of its modifications were installed in airplanes as late as the first years of the last war.

Just on the eve of the war A. Mikulin designed the AM-38 engine with intensive supercharging at ground level for facilitating take-off of heavy airplanes from short runways. This type of engine was installed in "Il-2" airplanes.

The construction bureau of V. Ya. Klimov was working on improving high-power liquid-cooled engines of small dimensions. Several models were developed and they were installed in Yakovlev's fighters and Petlyakov's dive bombers.

The air-cooled engine, ASh-82, constructed by A. D. Shvetsov was used during the last war in Lavochkin fighters and Tupolev bombers.

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